(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization

International Bureau



(43) International Publication Date 25 March 2004 (25.03.2004)

(10) International Publication Number WO 2004/025078 A1

(51) International Patent Classification7: 17/10, 47/01

E21B 47/10.

(21) International Application Number:

PCT/EP2003/010005

(22) International Filing Date:

8 September 2003 (08.09.2003)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data: 02/11203

10 September 2002 (10.09.2002) FR

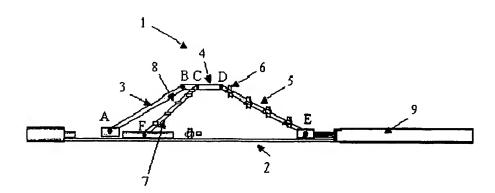
(71) Applicant (for FR only): SERVICES PETROLIERS SCHLUMBERGER [FR/FR]; 42, rue Saint-Dominique, F-75007 Paris (FR).

- (71) Applicant (for all designated States except BF, BJ, BR, CA, CF, CG, CI, CM, CN, CZ, FR, GA, GB, GN, GQ, GW, IN, JP, LT, MA, ML, MR, NE, NL, OM, SD, SN, TD, TG, TN, TR. TT. US, VN): SCHLUMBERGER TECHNOLOGY B.V. [NL/NL]; Parkstraat 83-89, NL-2514 JG The Hague (NL).
- (71) Applicant (for GB, JP, NL only): SCHLUMBERGER HOLDINGS LIMITED [-/-]; P.O. Box 71, Craigmuir Chambers, Road Town, Tortola (VG).
- (71) Applicant (for CA only): SCHLUMBERGER CANADA LIMITED [CA/CA]; 24th Floor, Monenco Place, 801 6th Avenue, SW, Calgary, Alberta T2P 3W2 (CA).

- (71) Applicant (for BF, BJ, CF, CG, CI, CM, CZ, GA, GN, GQ, GW, IN. LT, MA, ML, MR, NE, SN, TD, TG, TN, VN only): PETROLEUM RESEARCH & DEVELOPMENT N.V. [NL/NL]; De Ruyterkade 26, Willemstad, Curacao (AN).
- (71) Applicant (for CN only): SCHLUMBERGER OVER-SEAS S.A. [PA/PA]; 8 Calle Aquilino de la Guardia, Panama City (PA).
- (71) Applicant (for OM, SD, SY, TR only): SCHLUM-BERGER OILFIELD ASSISTANCE LIMITED [PA/PA]; 8 Calle Aquilino de la Guardia, Panama City (PA).
- (71) Applicant (for BR only): **SCHLUMBERGER** SURENCO S.A. [PA/PA]; 8 Calle Aquilino de la Guardia, Panama City (PA).
- (71) Applicant (for TT only): SCHLUMBERGER SER-VICES LIMITED [—/—]; P.O. Box 438, Tortola (VG).
- (71) Applicant (for EG only): SCHLUMBERGER SEACO INC. [PA/PA]; 8 Calle Aquilino de la Guardia, Panama City
- (72) Inventors; and
- (75) Inventors/Applicants (for US only): CENS, Fabien [FR/FR]; c/o Etudes et Productions Schlumberger, 1, rue Henri Becquerel, F-92142 Clamart Cedex (FR). CHYZAK, Jean-Pierre [FR/FR]; c/o Etudes et Productions Schlumberger, 1, rue Henri Becquerel, F-92142 Clamart Cedex (FR).

[Continued on next page]

(54) Title: A MEASURING SONDE FOR A HYDROCARBON WELL



(57) Abstract: The invention provides a measuring sonde (1) for a hydrocarbon well, the sonde comprising a main body (2), a downstream arm (3), and an upstream arm (5), at least one of said arms being fitted with measurement means (6) for determining the characteristics of the fluid flowing in the well; said downstream and upstream arms being connected to the main body respectively via first and second sliding pivot links (A and E).

2004/025078 A1 IIIII

- (74) Agent: RAYBAUD, Hélène; Etudes et Productions Schlumberger, Boîte postale 202, 1, rue Henri Becquerel, F-92142 Clamant Cedex (FR).
- (81) Designated States (national): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (regional): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW),

Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

- with international search report
- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.